

REMARKS

The present amendment is in response to the Office Action, dated December 31, 2003, where the Examiner has rejected claims 1-81. By the present amendment, applicants have amended claims 1, 2, 17 and 19. Accordingly, after the present amendment, claims 1-81 are pending in the application. Reconsideration and allowance of pending claims in view of the amendments and the following remarks are respectfully requested.

A. Objection to the Specification

The Examiner has objected to the specification, because the word "to" on page 14, line 5, should read --is--. By the present amendment, applicants have amended the specification to replace the word "to" with the word --is-- on page 14, line 5. Accordingly, applicants respectfully submit that the Examiner's objection has been overcome.

B. Rejection of Claims 1, 5 and 8 under 35 USC § 102(e)

The Examiner has rejected claims 1, 5 and 8 under 35 USC § 102(e) as being anticipated by Arnaud et al. (USPN 6,650,662) (hereinafter "Arnaud"). Applicants respectfully disagree.

First, the Examiner's attention is directed to claim 1 of the present application, as amended, which in part reads: "if a potential DTMF signal is detected, storing the digital packets and stalling transmission of stored digital packets until DTMF detection can be performed, and if the potential DTMF signal does not result in a DTMF detection, promptly transmitting the stored digital packets, and if the potential DTMF signal does result in a DTMF detection, discarding the stored digital packets and transmitting a control packet containing information relating to characteristics of a DTMF signal that was detected." In other words, according to claim 1, when a potential DTMF signal is detected, the digital packets are stored and discarded if the DTMF

signal is validated to be a true DTMF signal, and instead of the discarded digital packets, a control packet containing information relating to characteristics of the DTMF signal is transmitted. However, if the potential DTMF is determined to be a false DTMF signal, the stored digital packets are transmitted.

It is respectfully submitted that Arnaud's approach is sharply different. According to Arnaud, when a candidate or potential DTMF signal is detected, transmission of digital packets are not stalled, but continue. According to Arnaud, when a candidate DTMF is detected and while determining whether the candidate DTMF is a true or false DTMF signal, the candidate DTMF signal at the output of the DTMF detector is filtered (201) to remove the value of the second group frequency. The filtered candidate DTMF signal is then compressed (201, 204), assembled in packets (205) and sent to the destination node (105). (See col. 5, lines 35-60.) Accordingly, Arnaud filters the digital packets whenever a candidate DTMF signal is detected to block out one of the dual tones of each possible DTMF signal and continues transmitting the filtered digital packets. Arnaud's approach has a major drawback and that is because four different frequencies must be filtered out of the digital packets (e.g. 1209Hz, 1336Hz, 1477 Hz and 1633Hz) whenever a candidate DTMF is detected. (See table shown at col. 6, lines 15-25.) As a result, the digital packets are filtered and transmitted while the candidate DTMF signal is being validated, even though it may later turn out that the candidate DTMF signal was a false DTMF signal, and that those frequencies should not have been filtered out.

In sharp contrast, according to claim 1, as amended, the digital packets are stored and stalled until it is determined whether the potential DTMF signal is a true or false DTMF signal. If it is determined that it was a false detection, the stored digital packets are transmitted intact.

Accordingly, claim 1, as amended, and its dependent claims 2-16 are patentably distinguishable over Arnaud and should be allowed. Further, independent claims 17 and 19 have limitations similar to those of claim 1, as described above, and should be allowed at least for the same reasons stated above. Claims 18 and 20-21 depend from claims 17 and 19, respectively, and should be allowed at least for the same reasons claims 17 and 19 are allowable.

C. Rejection of Claims 22-81 under 35 USC § 102(e)

The Examiner has rejected claims 22-81 under 35 USC § 102(e) as being anticipated by Wildfeuer (USPN 6,298,055) (hereinafter "Wildfeuer"). Applicants respectfully disagree.

Applicants hereby swear behind the October 26, 1998 filing date of Wildfeuer under 37 C.F.R. § 1.131. Under 37 C.F.R. § 1.131, the inventor of the claimed invention may submit an appropriate declaration to overcome a reference. The showing of facts shall be such as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to the effective date of the reference to a subsequent reduction to practice or to the filing of the application. See 37 C.F.R. § 1.131. Applicants respectfully submit that claims 22-81 are allowable over Wildfeuer based on the following remarks.

Pursuant to 37 C.F.R. § 1.131, attached are declarations from inventors Michael Whitfield, Michael Simpson and Remy Gauguey and a copy of an Innovation Disclosure, having Docket No. 99RSS023, which is shown to have been entered into Rockwell International's Innovation Disclosure Database on October 21, 1998, which predates the filing date of Wildfeuer, i.e. October 26, 1998.

Applicants respectfully submit that the Innovation Disclosure, entitled "Use of Early DTMF Indication to Suppress DTMF From RTP Voice Packets" evidences that the inventors were in possession of the presently claimed subject matter on October 21, 1998, as further evidenced by attached declarations from each inventor.

Accordingly, applicants respectfully request that the rejection of claims 22-81 under 35 U.S.C. § 102(e) be withdrawn.

D. Rejection of Claims 2-4, 6, 7, 9, 10 and 17-21 under 35 USC § 103(a)

The Examiner has rejected claims 2-4, 6, 7, 9, 10 and 17-21 under 35 USC § 103(a) as being unpatentable over Arnaud in view of Kozdon et al. (USPN 6,385,192) (hereinafter "Kozdon"). Applicants respectfully disagree.

Applicants respectfully submit that claims 2-4, 6, 7, 9 and 10 depend from claim 1, claim 18 depends from claim 17 and claims 20-21 depend from claim 19, and thus, these dependent claims should be allowed at least for the same reasons stated above in conjunction with patentability of claims 1, 17 and 19.

E. Rejection of Claims 11-16 under 35 USC § 103(a)

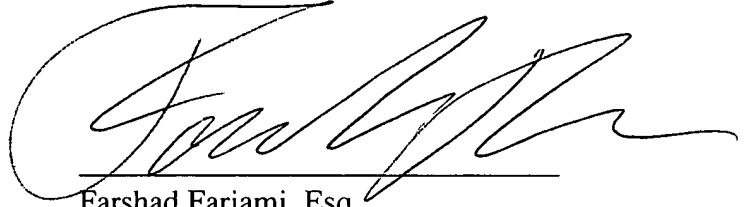
The Examiner has rejected claims 11-16 under 35 USC § 103(a) as being unpatentable over Arnaud in view of Kozdon, and further in view of Schulzrinne (ietf-avt-dtmf-01.txt) (hereinafter "Schulzrinne"). Applicants respectfully disagree.

Applicants respectfully submit that claims 11-16 depend from claim 1 and should be allowed at least for the same reasons stated above in conjunction with patentability of claim 1.

F. Conclusion

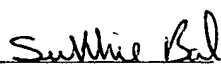

For all the foregoing reasons, an early allowance of claims 1-81 pending in the present application is respectfully requested. The Examiner is invited to contact the undersigned for any questions.

Respectfully Submitted;
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 Name	 Signature



Innovation Disclosure

Docket No.: 99RSS023
Ranking: APPROVED TO FILE

1. Innovator(s)

Name	SSN	Dept.	Mail Code	Telephone	Supervisor
Michael Whitfield	Redacted	630	EEDC	(FR)x-3313	Jonathan Peace
Michael J Simpson	--	884	K02-250	(949)221-6579	Jim W Johnston
Remy Gauguey	--	630	EEDC	(FR)x-3392	Jonathan Peace

2. Title of Invention

Use of Early DTMF Indication to Suppress DTMF From RTP Voice Packets

3. Problem Solved

The RTP protocol, which defines a packet format for packetized voice, states that DTMF signals should be removed from the packetized voice frames.

4. Previous Solutions

As DTMF detection takes a finite time, two previous solutions existed.

- 1) Delay constructed packets until sure there's no DTMF in them (adds unwanted delay)
- 2) Accept that a small amount of DTMF will be present, the length of time being equivalent to the DTMF detection delay.

5. Solution

Using signal processing techniques, an early DTMF indication is derived. This indication happens quickly, but is not totally reliable (gives false detections).

When this early DTMF indication occurs, the packets being constructed are stalled until the normal DTMF detector indicates whether there really is DTMF present. If DTMF is really present, the stalled packets are discarded. If it was a false alarm, the packets are released.

6. Differences/Advantages Over Previous Solutions

This new solution is an optimal compromise between the 2 previous solutions. Some DTMF is allowed into the voice stream, but much less than when waiting for full DTMF detect. and probably not enough for the end user to hear. Delay can be introduced by the system, but only when there is good reason to believe DTMF may be present, so the average delay added is much less than when delaying all packets until full DTMF detection is done.

7. Status of Innovation

Redacted

11. Innovator signature(s): (Do not use black ink)

_____ Date _____

_____ Date _____

_____ Date _____

Qtr Evaluated: 1Q99
Group: Network Access Division
Technology:
Sub Technology 1:
Sub Technology 2:
Products:

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Modified: Donna Bastedo @ 02/25/99 12:59 PM

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28-Oct-1998 03:31 PM by James K Dawson
14-Dec-1998 01:03 PM by James K Dawson
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